

to have fallen that measured from five to eight inches in circumference. In localities to the southwest and west of Milwaukee, the storm is reported to have been very destructive.

Rochester, New York: a thunder-storm, accompanied by heavy rain, prevailed from 7.30 to 8.10 p. m. on the 7th, and in the southern part of the city there was a slight fall of hail. Reports from the northern part of Wayne county state that a destructive hail storm occurred there and caused much damage to fruit, the trees being completely stripped of their foliage. The storm passed over Oneida lake into the Mohawk valley, where it is reported to have assumed the character of a tornado. At Utica, Trenton, Holland Patent, and Canajoharie, great damage was done. To the north of Rome the crops were badly damaged by hail, and many buildings were blown down. Buildings were also destroyed at Lasallesville and Oppenheim, in Fulton county.

Port Hope, Province of Ontario: a very severe hail storm occurred on the night of the 7-8th, during which all exposed window-glass was broken. The hail-stones were as large as walnuts, and some were found to measure five inches in circumference. Several barns in this vicinity were blown down or unroofed.

Huron, Dakota: a heavy hail storm is reported to have occurred to the north and northeast of this station during the evening of the 12th; crops were seriously damaged. On the 14th a severe storm passed through the southern part of this (Beadle) county into Sanborn county; it was accompanied by hail which proved destructive to crops. On the 27th a heavy hail storm occurred twenty miles north of this place, destroying crops and causing other damage.

Sherlock, Finney county, Kansas: a destructive hail storm occurred at this place on the 16th. The hail-stones varied from one inch in diameter to the size of hens' eggs; much damage was done to the growing crops.

Fort Yates, Dakota: the hail storm of the 18th caused slight damage to crops in this vicinity; the hail-stones were from one-fourth to one-half inch in diameter and covered the ground to a depth of one inch.

Stockham, Hamilton county, Nebraska: the hail storm of the 19th completely destroyed garden vegetables and caused great damage to crops. The storm was accompanied by high wind which unroofed, or blew down, numerous out-buildings.

Leavenworth, Kansas: a violent thunder-storm prevailed during the night of the 21-22d, accompanied by heavy rain and high wind, the latter reaching a velocity of 32 miles per hour. No damage was done in this city, but at points eight miles south of here considerable damage was done by hail.

Hail storms of less severity are reported to have occurred in the various states and territories as follows:

Arizona.—Fort Grant, 23d; Fort Apache, 27th.

Arkansas.—Lead Hill, 15th.

California.—Blue Lake, 5th.

Colorado.—Braddock, 5th, 12th, 15th, 28th; Pueblo, 17th, 23d; Pike's Peak, 27th, 28th.

Dakota.—Huron and Fort Sully, 5th; Fort Bennett, 5th, 11th, 14th, 26th, 27th; Deadwood, 11th, 18th, 20th, 25th; Fort Meade, 11th, 25th; Vermillion, 12th, 25th; Webster, and Bismarck, 18th; Fort Yates, 20th; Fort Totten, 25th.

District of Columbia.—Washington, 5th.

Idaho.—Albion, 7th; Cœur d'Alene, 12th; Boise City, 19th.

Illinois.—Sycamore, 7th, 27th; Mattoon, 15th; Swanwick, 20th.

Indiana.—Indianapolis and Logansport, 4th; Jeffersonville, 8th.

Indian Territory.—Fort Sill, 17th.

Iowa.—Keokuk, Fort Madison, and Independence, 2d; Ottumwa, 2d, 12th; Logan, 5th; Des Moines, 6th; Cresco, 7th, 12th; West Union, 12th; Guttenberg, 14th, 27th.

Kansas.—Allison, 1st, 16th; Wyandotte, 3d, 7th, 13th; Independence, 8th; Maud, 10th; West Leavenworth, 12th; Salina, 15th, 19th; Manhattan, 26th.

Kentucky.—Louisville, 8th.

Maine.—Portland and Cornish, 1st.

Maryland.—Baltimore, 5th.

Michigan.—Marquette, 14th; Thornville, 26th.

Minnesota.—Chester, 7th, 20th, 25th; Moorhead, 11th, 16th; Saint Vincent, 20th.

Missouri.—Conception, 7th.

Montana.—Poplar river, 2d, 29th; Fort Maginnis, 19th.

Nebraska.—Stockham, 4th, 5th; Fort Robinson, 5th, 11th; North Platte, 5th, 28th; Omaha, 7th, 13th, 14th; De Soto and Genoa, 12th, 14th; Columbus, 12th, 13th, 14th; Yutan, 15th.

Nevada.—Fort McDermitt, 5th, 9th; Winnemucca, 9th, 12th, 13th, 21st, 23d.

New Hampshire.—Mount Washington, 1st.

New Jersey.—Cape May, 5th; Readington, 8th; Little Egg Harbor, 22d.

New Mexico.—Lava, 27th.

New York.—Penn Yan, 7th; Palermo, 8th; Menand Station (near Albany), 9th.

Ohio.—Waseon, 4th; Yellow Springs, 15th.

Oregon.—Albany, 5th.

Pennsylvania.—Pittsburg, 4th; Wellsborough, 7th.

Texas.—Fort Stockton, 10th; Fort Davis, 16th.

Utah.—Nephi, 5th; Salt Lake City, 11th; Frisco, 22d.

Virginia.—Marion and Bruington, 5th; Dale Enterprise, 21st.

Washington Territory.—Fort Townsend, 11th.

Wisconsin.—Prairie du Chien, 7th.

TEMPERATURE OF WATER.

The following table shows the highest and lowest temperatures of water observed at the several stations; the monthly ranges of water temperature; the average depth at which the observations were made; and the mean temperature of the air:

Temperature of water for June, 1885.

| Station. | Temperature at bottom. | | Range. | Average depth, feet and tenths. | Mean temperature of the air at station. |
|---|------------------------|------|--------|---------------------------------|---|
| | Max. | Min. | | | |
| Atlantic City, New Jersey | 69.9 | 62.0 | 7.9 | 4 8 | 66.7 |
| Alpena, Michigan | 66.8 | 60.2 | 6.6 | 12 5 | 58.3 |
| Augusta, Georgia | 81.3 | 71.6 | 9.7 | 7 7 | 77.8 |
| Baltimore, Maryland | 75.7 | 65.9 | 9.8 | 10 1 | 72.6 |
| Black Island, Rhode Island | 60.2 | 52.3 | 7.9 | 7 5 | 62.7 |
| Boston, Massachusetts | 60.4 | 45.7 | 14.7 | 19 8 | 66.4 |
| Buffalo, New York | 68.0 | 55.2 | 12.8 | 10 2 | 60.9 |
| Canby, Fort, Washington Territory | 64.7 | 50.6 | 8.1 | 14 7 | 55.8 |
| Cedar Keys, Florida | 88.9 | 81.2 | 7.7 | 8 3 | 81.4 |
| Charleston, South Carolina | 83.9 | 78.0 | 5.9 | 41 2 | 79.5 |
| Chicago, Illinois | 65.1 | 55.3 | 9.8 | 8 0 | 65.4 |
| Chincoteague, Virginia | 80.0 | 68.3 | 11.7 | 2 9 | 69.4 |
| Cleveland, Ohio | 73.6 | 57.1 | 16.5 | 14 0 | 64.5 |
| Detroit, Michigan | 57.9 | 46.7 | 11.2 | 10 0 | 57.3 |
| Duluth, Minnesota | 44.4 | 39.4 | 5.0 | 14 9 | 39.1 |
| Eastport, Maine | 64.0 | 49.0 | 15.0 | 18 7 | 59.4 |
| Esconaba, Michigan | 86.0 | 82.0 | 4.0 | 12 7 | 84.1 |
| Galveston, Texas | 73.9 | 62.2 | 11.7 | 19 0 | 59.8 |
| Grand Haven, Michigan | 86.6 | 80.9 | 5.7 | 9 0 | 82.2 |
| Indianola, Texas | 85.0 | 82.0 | 3.0 | 18 0 | 80.1 |
| Jacksonville, Florida | 89.8 | 79.1 | 10.7 | 17 2 | 82.6 |
| Key West, Florida | 59.1 | 47.3 | 11.8 | 10 0 | 56.8 |
| Mackinaw City, Michigan | 59.1 | 47.3 | 11.8 | 10 0 | 56.8 |
| Macon, Fort, North Carolina | 53.0 | 70.2 | 12.8 | 5 0 | 74.4 |
| Marquette, Michigan | 59.0 | 50.1 | 8.9 | 8 0 | 60.2 |
| Milwaukee, Wisconsin | 85.0 | 77.4 | 7.6 | 17 1 | 77.8 |
| Mobile, Alabama | 70.8 | 56.9 | 13.9 | 16 6 | 65.2 |
| New Haven, Connecticut | 68.7 | 61.0 | 7.7 | 13 0 | 67.3 |
| New London, Connecticut | 78.7 | 71.9 | 6.8 | 10 1 | 74.3 |
| New York City | 84.9 | 79.5 | 5.4 | 17 4 | 80.5 |
| Norfolk, Virginia | 54.9 | 50.8 | 4.1 | 16 3 | 55.3 |
| Pensacola, Florida | 69.7 | 59.1 | 10.6 | 63 7 | 61.0 |
| Portland, Maine | 75.0 | 66.5 | 8.5 | 11 5 | 67.0 |
| Portland, Oregon | 64.9 | 60.5 | 4.4 | 2 0 | 67.1 |
| Sandy Hook, New Jersey | 61.2 | 56.2 | 5.0 | 35 6 | 59.9 |
| San Francisco, California | 84.3 | 76.8 | 7.5 | 9 9 | 79.5 |
| Savannah, Georgia | 83.0 | 71.8 | 11.2 | 10 5 | 76.4 |
| Smithville, North Carolina | 75.9 | 65.7 | 10.2 | 13 3 | 68.3 |
| Toledo, Ohio | 81.6 | 75.3 | 6.3 | 14 3 | 76.4 |
| Wilmington, North Carolina | | | | | |

* Record for 15 days.

† Thermometer broken.

COTTON REGION REPORTS.

In the following table are given the means of the maximum